

Release Notes for RISA-3D

Version 12.0.2 Enhancements/Corrections

- Eliminated the need to manually edit the Windows registry for Network Client Installations.
- Improved the reporting of the local buckling limit state for Aluminum members.

Version 12.0.1 Enhancements/Corrections

Enhancements

- Updated the design of the Wall Panel Editor dialog. This includes adding the saving of wall drawing grids and viewing wall panel nodes within the editor.
- Added an external utility to specify a license server for network client installs to use.
- Added the “No_Cars” and “Full” options to the Cooper-E80 loads in the Moving Load Database.
- Added a new unbraced length code “Lbyy” for Lcomp-top and Lcomp-bot, which allows you to reference and use the Lbyy unbraced length.
- Redefined the blank/empty condition for Lcomp-top unbraced length entry so that it now uses the full length of the physical member.
- Updated the Hot-Rolled Steel calculations for shear capacity. There are h/tw thresholds used where $h = d - 2*k$. The program was previously using $h = d - 2*tf$.
- Re-ordered the Member Spreadsheet so “Type” comes before “Design List”.
- Modified the lateral torsional buckling code checks for tapered members (per AISC Design Guide 25) to better handle cases with zero moment at the ends of a member.
- Added notes to report printing options when envelope results are unavailable for printing during a batch solution (or vice versa).
- The equations of local buckling per ADM-05 Section 4.7 are now referenced in the member Detail Report.
- The program now ignores axial forces less than 0.5% of the compression capacity for Aluminum member analysis in order to avoid major code check differences in members with axial force close to zero.
- Licensing enhancements:
 - Added an auto-save during a Windows shut down.
 - Updated the program to allow remote desktop connections for standalone versions.
 - Created an install / initialization log file to better diagnose license commuting issues.

Corrections

- Corrected an issue with two-way area load attribution for cases with extremely light load or extremely small area load mesh size.
- Corrected an error in which units were not being shown in the Concrete Shape Database.
- Fixed a display issue with projected tapered wall panel surface loads.
- Fixed a few Plot Options settings that were not able to save into the defaults.
- Separated the color contour controls for the wall panels and plates.
- Removed the reporting of erroneous seismic detailing information from the Global Parameters portion of the printed report.
- Corrected an issue related to the number of decimals when printing Dynamics results.
- Resolved the missing graphics legend when printing in Windows 7.
- Corrected an issue where code checks for Cold Formed Steel sections with a user defined C_b value could over conservatively use a C_b of 1.0.
- Fixed incorrect code references for seismic detailing checks using the AISC 341-10 and AISC 360-10 specifications.

- Fixed an issue where RISAFloor/RISA-3D/RISAFoundation integrated models with generated lateral loads and flexible diaphragms did not pass all load category information into RISAFoundation.
- Fixed a problem with the Canadian automated Wind Load Generator where the wind pressures used for a rectangular structure were transposed.
- Fixed a problem with Custom Wood Material entry which could cause an erroneous message.
- Corrected an issue where Masonry Wall Panels could report incorrect reinforcement for in-plane forces if the Load Combination which controlled design did not have the maximum moment force.
- Corrected a problem with the shear reinforcement total steel area and capacity for concrete column design.
- Fixed a problem with the Contour Cutting Tool, where it would not work if only certain portions of the model were selected. Now it works in all cases.
- Corrected an issue with code checks on single angle members for the CSA-05 steel code.
- Corrected an error in Aluminum round tube analysis where the code check was calculated using force/stress rather than force/force.
- Corrected a bug in which the "Delete Displayed Loads on Items by Clicking the Items Individually" tool was not working for member area loads.
- Corrected an error in which printing single solution moving load results would cause a program crash.
- Corrected an issue where RISA-3D may not hand over the "distance to top of column" value to RISACorrection. This resulted in over conservative calculations for some column stiffener checks.
- Corrected a bug which caused a program crash when adding new lines to the Concrete Materials spreadsheet.
- Corrected a bug which caused a program crash when deleting lines from the Member Design Rules spreadsheet.
- Corrected an issue where member force diagrams could display with incorrect units if the unit settings were changed post-solution.
- For Aluminum design the program was incorrectly (conservatively) using the omega for tensile rupture rather than the smaller omega it was supposed to.
- Fixed a units problem with the headers in the Design Results spreadsheet for Aluminum if the units are not set as Standard Imperial.
- Fixed an issue where an irregular framing situation could cause a Wall Panel meshing problem.
- Corrected an issue related to the graphic display of enveloped Joint Reactions.
- Fixed a calculation error for the axial compression capacity of a tapered wide flange column.
- Fixed a problem in a combined RISAFloor, RISA-3D and RISAFoundation model where saved RISA-3D and RISAFoundation results could be erroneously erased.
- Corrected a problem with user entered values of C_b in Cold Formed Steel.
- Fixed a problem with the design of Concrete Shear Reinforcing in RISA-3D where RISAFloor interaction could cause some over conservative tie spacing.
- Fixed a Masonry Wall Panel problem where the allowable bending stress, F_b , in plane was using $1/3 \cdot f'_m$ rather than $0.45 \cdot f'_m$ for the 2011 ASD design.
- Corrected a tolerance problem with the Copy-Rotate tool.
- Fixed a problem for Cold Formed Steel members where fully braced members would provide a lower moment capacity than non-fully braced members.
- Corrected an issue with concrete L-beams that didn't indicate the correct negative reinforcement width in the detail report.
- Corrected an incorrect code reference for the bending capacity of singly symmetric Aluminum shapes.
- Removed the solution warning related to τ_{beta} when using any code other than the AISC 13th and 14th Editions since it is not applicable for any other code.
- Removed an irrelevant error message related to inadequate wall panel reinforcing.
- Enhanced the Section Sets to better locate the RISASection database.
- Updated out of plane masonry design to de-couple the location of the axial and bending checks. Previously both checks were always taken from the location of maximum bending, rather than having them taken from separate locations when appropriate.
- Corrected a code check calculation error for an axial member in compression when using the AA ADM1-10: ASD Building Code.

- Fixed an issue where beam thermal force calculations are conservatively incorrect when using Metric units if the load combination factor is not 1.0.

Version 12.0 Enhancements/Corrections

Enhancements

- Enhanced Report Printing options:
 - Added the ability to include Detail Reports.
 - Added the ability to include RISA Screen Shots/Graphics.
 - Added the ability to include non-RISA images.
 - Now the user can add a Custom Logo to the report header.
- Add the ability to view Batch and Envelope results simultaneously.
- Moving Load enhancements:
 - Added the step location for moving load results to indicate where the moving load is located when it gives the reported results.
 - Updated the moving load animation with play/pause control.
 - Added the ability to view a specific moving load step in the moving load animation.
 - Added the AREMA Chapter 15 Cooper E-80 (Railway loading) to the moving loads database.
- Added a Trim/Extend tool.
- Enhanced Concrete Design Rules to give a dialog with an image to show exactly what is being updated. An easier explicit reinforcement option is also available.
- Moved Basic Load Case dropdown to the top of all Apply Load dialog boxes.
- Added a Geodesic Dome to the High Level Generation options.
- Added compatibility with Windows 8.1.
- Updates to hold-downs and straps:
 - Updated the wood wall hold-down databases, adding USP hold-downs and updating the design values for Simpson hold-downs.
 - Added the ability to add the hold-down eccentricity to wood shear walls.
 - Strap forces have been adjusted to account for the chord width.
- Wood Updates:
 - Updated wood allowable stress values based on several NDS Addenda.
 - Applied the 2007 Addendum to the AF&PA NDS-05/08 regarding wood design values, changing the Northern Species and adding Coast Sitka Spruce and Yellow Cedar.
 - Added the Hem Fir North, No. 1 & Btr species grade combination to the wood material database.
 - Clarified the CF (size factor) and Cfu (flat use factor) variables for visually graded timbers per NDS Table 4D.
- Added ASTM A1085 material and Design Lists to U.S. program defaults.
- Masonry wall updates:
 - Added the Icr Factor and Effective Height Factor, K, to be used for masonry wall design and analysis.
 - Added many additional pieces of information to masonry wall detail reports to make hand verification easier.
 - Added maximum horizontal bar spacing provisions for masonry shear walls.
 - Updated the masonry wall design output spreadsheets to show the governing code check value for both In Plane and Out of Plane results. Masonry gives multiple checks in the detail report for both combined checks and shear checks and previously only the first value was reported in the spreadsheet results rather than the maximum.
 - Corrected an issue with staggered and both faces reinforcement for masonry walls where the bending capacity was overly conservative.
 - Corrected an error where masonry wall panels would report the incorrect governing shear load for wall regions that require shear reinforcement.
 - Corrected reporting of allowable shear and controlling load combinations.

- RISA-Revit Link enhancement: RISA wood walls now export sheathing and nailing information into Revit.
- General graphical interface updates:
 - Added the ability to graphically select items from various input and results spreadsheets.
 - Added a color coding option (3D/2D) based on maximum deflection ratio.
 - Added the ability to turn off the input of Detailing Information used only for exporting information to a steel detailing program.
 - Enhanced the Wall Panel Editor to allow deletion of Boundary Conditions.
 - Added the ability to specify plate element size in the Rectangular Tank Generator.
 - Added the ability to view Joint Reactions graphically with an Enveloped solution.
 - Added the right-click menu option to "Select Items in Current View" to a number of results spreadsheets.
 - Updated the Node/Member labeling so that labels are synchronized in combined RISAFloor/RISA-3D/RISAFoundation models.
- Moved registry information from HKey Local Machine to HKey Current User to better comply with Windows best practices.
- Add the 1.43 stiffness adjustment for service-level loads for concrete wall panels per ACI 318-11 Section R10.10.4.1.
- Enhanced reinforcement checks on members with custom rebar layouts to include ACI 10.5.3 checks.
- Revised dynamic results to now always show Mass Participation regardless of whether or not RSA was included.
- Updated general shape stress analysis to use the square-root-sum-of-squares method to combine orthogonal stresses on doubly symmetric shapes. Previously the orthogonal stresses were directly summed as a conservative approach.
- Enhanced both Indian 2007 and Euro 2005 code compression routines to treat Tapered WF members as welded.

Corrections

- Updated RISA-3D to work properly with a RISAFoot network version that requires the LS Query List registry setting to work.
- Corrected the printed report Projected Load nomenclature to be consistent with the terms used in the program.
- Graphical cover measurement for concrete members in the Detail Report have been corrected.
- Corrected an error where the program was not correctly applying the user-entered K value in the calculation of the compressive capacity per the CSA S16 Canadian Hot Rolled Steel design code.
- Corrected an issue with the spreadsheet reporting of strap forces where in certain instances the spreadsheet would report NC even if there were tension forces.
- Corrected an error in the calculation of strong axis bending capacity of WT members for the Canadian steel code.
- Corrected an issue where enveloped results may not correctly report envelope deflection ratios when local deflections are negative.
- Corrected a problem with permanently saving General Arbitrary shapes to the Shape Database.
- Corrected an issue with enveloped saved Cold Formed member results where the Phi factor was not being applied in the displayed moment capacities.
- Corrected a unit conversion issue with wood wall stiffness.
- Corrected an issue in Indian 2007 and Euro 2005 codes which could lead to incorrect buckling calculations for members with a flange thickness greater than 100mm.
- Corrected an issue in Euro 2005 code which affects the buckling calculations for S460 steel.
- Corrected a problem in the calculation of M_{dv} (moment capacity for high shear) per the IS 800: 2007. Capped "beta" value at 1.0.
- Rectangular Tank Generator changes:
 - The Generator now uses full length physical members instead of the piece wise members previously generated.

- Corrected an offset error with single angles and channels.
- Corrected an orientation error with channels.
- Corrected a problem that was caused by running the envelope solution in RISA-3D under RISAFloor. If there were gravity-only walls and an envelope solution was run in RISA-3D the program would shut down.
- Corrected an issue where over strength load combinations were being included in code checks even though the load combination material flag was not checked.
- Corrected calculation of the M_v factor for the NBC 2005 Seismic Load Generation.
- Re-enabled the "Adjust Local Axis" option for the Copy-Rotate Tool. This was accidentally disabled in a previous release.
- Corrected an issue that causes the units in RISAFoundation to be off when both the units are changed and an Undo is performed in RISAFloor or RISA-3D in a combined RISAFloor/RISA-3D/RISAFoundation model.
- Corrected an error where unselected loads were being deleted when the "Delete Selected Loads" tool was used.
- Corrected a unit conversion issue with Joint Reaction Center of Gravity calculations when units were changed with existing results.
- Corrected an issue where a load combination with a moving load and over strength factors would cause a crash.
- Corrected an issue with seismic dynamic loads applied as line loads where some of the loads would not be considered.
- Corrected an issue where some wood members were not properly displaying the design values in the Properties tab of the Member Information dialog.